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$$\text{moment of } R''t'' \text{ round } AH$$
$$= R''t'' \cos R''U'' \sin NU''R''.$$

And for the refracted ray,

$$\text{moment of } R't' \text{ round } AH$$
$$= AR' \times R't' \cos R'U' \sin NU'R'.$$

But we have

$$AR' = \frac{AW}{\cos WR'} = \frac{\sin NW}{\cos WR' \sin NR'}$$

and, therefore, the moment is

$$= R't' \frac{\sin NW}{\cos WR' \sin NR} \cos R'U' \sin NU'R'.$$

And the vibrations Rt, $R''t''$, $R't'$, as before, are as

$$\sin R''LR' : \sin RLR' : \sin RLR'',$$

whence the equation given by the principle of equivalent moments is precisely that of Theorem II."

Mr. M. Donovan exhibited and described a moveable horizontal sun-dial, invented by himself, which shows apparent solar time within a small fraction of a minute.